Health Information Standards and Construction Of China

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Content Of The Report

1. The situation of China’s health informatization construction

2. The current situation of the development of health information standards

3. The DICOM in China
Three stages of development about China's health information construction

Stage 1
80-90 Years
Business Application System developed fast

Stage 2
2003 Year
- SARS-
To strengthen the construction of public health information

Stage 3
2009
Deepen the Medical reform

Diseases reporting information system
Immunization information system
Health supervision information system
New farming zone information system
The national health statistical information network for system

Constructed in 2007 statistics for report system, it has 10 thousand institutions to submit the annual report monthly, quarterly reports, online health monitoring data and the 4th level administrative department of health statistics personnel can review and summary online.

The national health statistical information network for system 2002-2013 Statistic DB
National investment to promote health informatization construction project

Top Design
Overall planning
Integrate Resource
Solid Foundation

12 Provinces

High-end remote consultation center

23 Provinces and Cities

Remote Consultation system

REMOTE MEDICAL
3.33 hundred million

RESIDENTS HEALTH CARD; 9.87 hundred million

National Information Platform

Comprehensive health information platform construction

Urban regional health informatization construction

County hospital information construction

Informatization construction of Communities, towns and townships

Informatization construction of village clinics

16 Provinces
6.3 hundred million

16 Provinces
2.96.3 hundred million

17 Cities
2130 hospitals
10.76.3 hundred million

65 thousand public institution
43.3 hundred million

423 thousand village
19.1 hundred million

Drug regulatory
8.23 hundred million
1. Electronic medical record as the core of the hospital information construction

*outpatient charges, get the medicine (HIS)*

*Digital image (PACS)*

*LIS*

*EMR*
Promote the hospital's information construction, improve the efficiency of medical service and quality.

Realize attainability, consistent, simple, intelligent information service.
According to the survey: By the end of 2012, 12 provinces (cities) the rate of health record filing is 83.3%, the rate of Electronic health records filing is 78.2%.
3. Regional health information platform construction begin to taking shape

- Provincial health information platform goes well
- Regional health information platform rapid promote
- Regional platform Realize interconnectivity with province platform
- Shanghai, Beijing, Yunnan
  Shared province cross-regional business information exchange

✓ Investigation of 12 provinces, the nine provinces have established provincial health information platform, realize the sharing of health information exchange and statistical analysis, auxiliary decision-making

✓ Survey of 147 cities, 62% of them have set up regional health information platform, all realize the connectivity and provincial platform, realize health records read, two-way referral, repeated examination revealed, performance appraisal and other business applications
The construction of Regional health information platform and health records

- Shanghai, Jiangsu, Zhejiang, Anhui and other provinces have set up 10 provincial health integrated management information platform; Hebei, Shandong, Hunan, Guangdong and other eight provinces is launching a provincial health integrated management information platform construction.

- China has established 152 prefecture-level regional health information platform, set up 372 county district health information platform.

- By the end of 2012, 12 provinces and cities health record filing rate is 83.3%, electronic health record filing rate is 78.2%.
4、Construction and Application of Remote Medical System with Remarkable Results

Comprehensive consultation

PACS/Pathology/ECG joint
Remote Operation and Guiding Teaching
National Health、Health Resource Integration—Top-Level Design

“4631-2” Project

3 Basic Database
- EHR Database
- EMR Database
- Population Database

Health Information Platform
- The National Population Health Management Platform
- Provincial Population Health Information Platform

Prefecture level population health region information platform

County level population health region information platform

Fusion Network
- Population Health Network
- Health GIS
- GPS Network

Public health information system of traditional Chinese and Western medicine
- Grassroots medical and health management information system
- Medical health public service information system
Content Of The Report

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The Development of Health Information Standard in China

Study and understand the domestic and international advanced experience and development trends, research, explore the establishment of China's health information standardization of appropriate technology and methods

Study on the accumulation of experience

2001—2005
- Development planning outline of national health information (2003—2010)
- Health information infrastructure framework for national and technology guide
- Basic data set standard of China hospital information system
- Basic data set standard of Chinese public health information system
- China MCH information system standard
- Community health service information system

2006—2010
- The fifth session of the health standard management committee set up
- Health Information Standards Committee
- To develop a unified standard method and Standard Specification
- The basic architecture and data standards of HER and EMR
- Regional platform and hospital platform technology solutions
- The main business application system data set standards

2011—2015
- The Ministry of health statistics information center new information standards
- According to the medical reform need to upgrade the standard development speed and breadth
- Focus on the development of regional health information needs of data exchange standard and a central focus of investment banking system construction technical specification
- Establishment 《“Twelfth Five Year Plan” health information standards focus and implementation plan》

The initial establishment of a national level health information standard management organization, established the direction and focus of health information standard system framework, formulated a number of high quality, high level of science and technology standard results around the reform demand

Standardized management, key breakthrough

Further improving the health information standard system of organization and system, strengthen the scientific research, objectives and priorities clear health information standardization work, promote the establishment of a Chinese characteristics, innovative health information standard scientific development pattern

The rapid development of innovation, consolidate
The management structure of Chinese health information standards organization

- National Health Standards Committee
- National Health Planning Commission Legal Department
- Ministry of Health Supervision Center
- Ministry of Health Statistical Information Center
- Standard Professional Committee
- Relevant departments
- Information Standards Department
- Beacon Committee Secretariat
• **Health information standards in different countries, different tissue classification is different, reflecting the development of classification and health information standard specific process**

• **According to the experience of standard organization of the international and developed countries, putting forward the framework of health information standard system in China, and gradually improve in the development process**
### Progress of health information standard system revision in China

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(不含2007年4项)

- At present, focusing on electronic health records, electronic medical records, health information platform, the relevant standards and specifications have been developed to complete, and can meet the basic requirements of the construction of the regional medical interconnection.
## Facing problems of Chinese health information standard

### Health information standardization work is facing the challenges

| The research and development issues of the standards | • Many blank points in standards  
• The problems existing in the research of fundamental theory and method  
• The lack of standards for combining the features of Chinese and Western Medicine |
|------------------------------------------------------|---------------------------------------------------------------|
| The application issues of the standards              | • Application of standards around the huge difference  
• The Specification and binding problem for the construction of local health information  
• The lack of standards application and supervision system of normalization |
| The long-term mechanism issues                       | • Health information standards development, updating and maintenance, application and promotion are lack of special investment  
• The lack of Health information professionals and experts  
• Standard approval, issued a long time, and the low efficiency |
Taking the interconnection and information sharing as the breakthrough point

• The establishment of a sound organizational management system
• Gradually establish a benign operation mechanism
• To strengthen the study of theory and policy

The top-down combining with bottom-up

Deepen the reform of Medical informatization

Awareness training and tracking survey
Regulation of Standard test and application
Collaborative development of Political, industrial, learning, research, use
Learning from international experience, establish **health information standard conformance test system and evaluation of management mechanism** which is suitable for China's national conditions, scientific, systematic, quantitative and justice, promote the application of national standards, establish an orderly market environment, guarantee the smooth implementation of the reform tasks.
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3. The DICOM in China
1、DICOM standard in China--History

DICOM standard track: extension of DICOM standard in the domestic application, complete the theoretical system of DICOM standard system, structure, message mechanism and service etc.

DICOM standard study: Complete DICOM service class underlying technology, fuse the international DICOM standards and Chinese DICOM standard to achieve DICOM standard localization applications.

Standard application and innovation: China characteristics of DICOM standard become part of the international DICOM standards.

2014
- Standard application and innovation: China characteristics of DICOM standard become part of the international DICOM standards.
- completed the revision of the standard system.
- Standards are as follows:
  - 《Medical digital imaging and communication in Chinese packaging specifications》
  - 《Basic data sets of medical digital imaging communications》
  - 《DICOM CP1234》
  - 《Medical digital imaging of communication in Chinese conformance testing specifications》

2008
- DICOM standard study: Complete DICOM service class underlying technology, fuse the international DICOM standards and Chinese DICOM standard to achieve DICOM standard localization applications.

2003
-DICOM standard study: Complete DICOM service class underlying technology, fuse the international DICOM standards and Chinese DICOM standard to achieve DICOM standard localization applications.

1996
- DICOM standard track: extension of DICOM standard in the domestic application, complete the theoretical system of DICOM standard system, structure, message mechanism and service etc.
The DICOM standard in the China were widely used and promoted, whether the system information can interact with other manufacturers of equipment or system is the key, covering the medical digital image acquisition, archiving, communication, display and query in almost all aspects.
3、DICOM In China-- Domestic Standard Achievement

- **Medical digital imaging and communication in Chinese packaging specifications**
  - Develop years: 2009
  - Standard Number: 2009-16-01
  - Review situation: Passed

- **Basic data sets of medical digital imaging communications**
  - Develop years: 2011
  - Standard Number: 2011-15-84
  - Review situation: Passed

- **Medical digital imaging of communication in Chinese conformance testing specifications**
  - Develop years: 2014
  - Standard Number: 20140105
  - Review situation: Passed the draft assessment
4、DICOM In China — International Standard Achievement

DICOM CP1234

Formulation process
- Requirements Definition
- Early Draft
- Public Comment Draft
- Intermediate Draft
- Trial-Use Draft (optional)
- Letter-Ballot Text
- Final Text

Joined the DICOM, 2013
Joined the DICOM, 2014 A Version

The process lasted two years (2011.01-2012.12)

Significance
- Filling the gaps of the DICOM standard research in domestic;
- Providing experience of standard-setting process;
- Achieving Chinese package of DICOM standard;
- Achieve consistency of medical digital imaging environments in a Chinese display;
- Laying the foundation for the localization of the DICOM standard application.
Basing on Standards, directing by standard application, The CIMICS as a link, Uniting domestic universities, medical institutions (hospitals) and medical companies to form research cooperation mechanism, strengthen personnel training, promote DICOM standard localization applications.

- **Interconnection**
  - Among medical imaging systems
  - Between the equipment medical imaging systems
  - Regional medical images interconnection

- **Standardization of Systems**
  - PACS
  - RIS
  - Medical imaging system

- **Standardization of Interface**
  - Standardization of medical equipments interface
  - Standardization of PACS interface
  - Standardization of RIS interface

- **Transformation**

- **DICOM tracking and study**
  - Basing on CIMICS
  - Tracking the latest DICOM standards development
  - Regularly published DICOM standard dynamic
  - Organizing the DICOM Academic conference

- **The basic research of DICOM**
  - Basing on domestic University
  - The personnel training of DICOM
  - The basic research of DICOM

- **The application research of DICOM**
  - Basing on medical companies
  - Oriented in medical institutions
  - The application research of DICOM

The Application Promote the DICOM
4、DICOM In China -- Exchanges and Cooperation

Strengthen international exchanges and cooperation. Promote the application of DICOM standard.

- Construction of the joint training mechanism for DICOM talented person
- Participation/organization of international conferences
- Organize academic seminars

DICOM In China -- Exchanges and Cooperation

August 2014 DICOM Chengdu Workshop

Qun Meng